IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please CANCEL claims 9, 11, 13, 15, 17, 19 and 32 and AMEND claims 1-8, 10, 12, 14, 16, 18, 20-31 in accordance with the following:

1. (CURRENTLY AMENDED) A packet control system comprising:

a packet forwarder that transfers a packet received from a network interface to another network interface; and

a packet control device that routes the packet using a routing process, wherein the packet forwarder includes:

a first routing table;

a received packet transfer unit that transmits to the packet control device a routing information packet received from the network interface, and wherein the packet control device includes:

a second routing table;

a virtual interface that has address information associated with the network interface of the packet forwarder,

a deciding unit that decides on, according to an algorithm prescribed by a routing protocol, a path to be selected based on information of the network interface and routing information which the packet control device exchanges with the other packet control device in a network,

a registering unit that registers the path decided by the deciding unit to ~~a~~ the second routing table,

a transmitted packet reception unit that receives the routing information packet, that associates the routing information packet with the virtual interface, and that delivers the routing information packet to the routing process, and

a transmitted packet transfer unit that receives the routing information packet sent by the routing process, and that transmits the routing information packet to the packet forwarder including the network interface that is associated with an address of the virtual interface, wherein

the packet control device connects to the packet forwarder through the network, and

the first routing table is updated based on a routing information on the second routing table.

2. (CURRENTLY AMENDED) A packet control device which constructs a routing table for a packet forwarder controlled by the packet control device, using a routing process running on the packet control device, the packet control device comprising:

a first routing table;

a virtual interface that has address information associated with the network interface of the packet forwarder;

a deciding unit that decides on, according to an algorithm prescribed by a routing protocol, a path to be selected based on information of the network interface and routing information which the packet control device exchanges with the other packet control device in a network;

a registering unit that registers the path decided by the deciding unit to ~~a~~ the first routing table;

a transmitted packet reception unit that receives the routing information packet transmitted from the packet forwarder, that associates the routing information packet with the virtual interface corresponding to an incoming network interface of the packet forwarder, and that transmits the routing information packet to the routing process; and

a transmitted packet transfer unit that receives the routing information packet sent by the routing process, and that transmits the routing information packet to the packet forwarder including the network interface that is associated with an address of the virtual interface, wherein

the packet control device connects to the packet forwarder through a network, and

a second routing table included in the packet forwarder is updated based on routing information on the first routing table.

3. (CURRENTLY AMENDED) The packet control device according to claim 2, further comprising:

a routing table transfer unit that acquires ~~a~~ the first routing table updated by the routing process, and that transmits the routing information on the first routing table to the packet forwarder.

4. (CURRENTLY AMENDED) A packet control device ~~which constructs a routing table for a~~

~~packet forwarder controlled by the packet control device~~ which determines an outgoing network interface of the packet received at an incoming network interface of the packet forwarder, the packet control device comprising:

a first routing table;

a plurality of network interfaces;

a plurality of virtual interfaces each having address information that is associated with one of the network interfaces of the packet forwarder, the network interfaces of the packet control device and the virtual interfaces being divided into a plurality of groups;

a deciding unit that decides on, according to an algorithm prescribed by a routing protocol, a path to be selected based on information of the network interface and routing information which the packet control device exchanges with the other packet control device in a network;

a registering unit that registers the path decided by the deciding unit to be ~~a~~ the first routing table; and;

a transmitting packet unit that transmits the packet to the packet forwarder including the network interface that is associated with and address of a virtual interface,

wherein

the packet control device routes the packet using a routing process associated with each of the groups considering interfaces belongs to the groups to create a ~~dedicated~~ second routing table for each, the each of the groups corresponds to a separate device, and wherein

the packet control device connects to the packet forwarder through a network, and

each of the second routing table is updated based on a routing information that corresponds to the separate device on the first routing table.

5. (CURRENTLY AMENDED) The packet control device according to claim 4, wherein

the virtual interfaces are grouped for each packet forwarder, and

the packet control device maintains second routing tables using a routing process associated with each of the virtual interfaces grouped.

6. (CURRENTLY AMENDED) A packet forwarder which forwards a packet from its network interface to its other network interface ~~according to its routing table that makes a destination address of a packet associate with a next transfer destination,~~ comprising:

a first routing table that makes a destination address of a packet associate with a next

transfer destination

a received packet transfer unit that transmits a routing information packet received at the network interface to a packet control device, the packet control device including a virtual interface having address information associated with the network interface, the packet control device maintaining the routing table of the packet forwarder using a routing process that generates the routing table based on routing information on the packet received at the network interface, and the packet control device connecting to the packet forwarder through a network;

a routing information receiving unit that receives the routing information packet delivered to the routing process by the packet control device from the routing process, the routing information packet being associated with the virtual interface;

a deciding unit that decides on, according to an algorithm prescribed by a routing protocol, a path to be selected based on information of the network interface and routing information which the packet control device exchanges with the other packet control device in a network;

~~a registering unit that registers the path decided by the deciding unit to a routing table; and~~

~~a transmitting packet unit that transmits the packet to the packet forwarder including the network interface that is associated with an address of the virtual interface~~, wherein

the first routing table is updated based on a routing information on the second routing table included in the packet control device.

7. (CURRENTLY AMENDED) The packet forwarder according to claim 6, further comprising a routing table setting unit that receives the routing information on the second routing table from the packet control device, and that sets the routing information to the first routing ~~table to the packet forwarder~~.

8. (CURRENTLY AMENDED) A method of maintaining a routing table using a routing process, the method comprising:

receiving a routing information packet which is received by a packet forwarder;

associating the routing information packet with a virtual interface that has address information associated with a network interface of the packet forwarder;

delivering the routing information packet to the routing process of a packet control device;

receiving the routing information packet sent by the routing process;

deciding on, according to an algorithm prescribed by a routing protocol, a path to be selected based on information of the network interface and routing information which the packet control device exchanges with the other packet control device in a network;

registering the path by the deciding to a first routing table; ~~and~~

transmitting the routing information packet from the packet control device to the packet forwarder including the network interface that is associated with an address of the virtual interface for transmitting from its network interface;

acquiring the first routing table updated by the routing process; and

transmitting the routing information on the first routing table to the packet forwarder for updating the second routing table, wherein

the packet control device connects to the packet forwarder through a network.

9. (CANCELLED)

10. (CURRENTLY AMENDED) A method of maintaining a routing table in a system that includes a packet forwarder and a packet control device, the packet forwarder including a plurality of network interfaces, the packet control device including a plurality of network interfaces and a plurality of virtual interfaces, each of the virtual interfaces having address information that is associated with one of the network interfaces of the packet forwarder, the method comprising:

dividing the network interfaces of the packet control device and the virtual interfaces into a plurality of groups;

deciding on, according to an algorithm prescribed by a routing protocol, a path to be selected based on information of the network interface and routing information which the packet control device exchanges with the other packet control device in a network;

registering the path by the deciding to a first routing table; and

transmitting the packet to the packet forwarder including the network interface that is associated with an address of the virtual interface grouped for each packet forwarder; and

~~maintaining the routing table of each for the groups using a routing process associated with each of the groups~~

maintaining a second routing table of each packet forwarder using the routing information on the first routing table associated with each of the virtual interfaces groups, wherein

the packet control device connects to the packet forwarder through the network.

11. (CANCELLED)

12. (CURRENTLY AMENDED) A method of maintaining a routing table of a packet forwarder, the method comprising:

receiving a routing information packet from a network interface of a packet forwarder;

transferring the routing information packet to a packet control device, the packet control device including a virtual interface having address information associated with the network interface, and the packet control device connecting to the packet forwarder through a network;

receiving the routing information packet from the packet control device, the routing information packet being associated with the virtual interface;

deciding on, according to an algorithm prescribed by a routing protocol, a path to be selected based on information of the network interface and routing information which the packet control device exchanges with the other packet control device in a network;

registering the path by the deciding to a first routing table in the packet control device; ~~and~~

transmitting the packet to the packet forwarder including the network interface that is associated with an address of the virtual interface;

receiving the routing information of the first routing table from a packet control device; and

setting the routing information to the second routing table in the packet forwarder, wherein

the second routing table makes a destination address of a packet associate with a next transfer destination.

13. (CANCELLED)

14. (CURRENTLY AMENDED) A computer-readable storage for controlling a computer, the computer-readable storage excluding a communication medium, comprising a computer program for routing a packet using a routing process, including computer executable instructions which, when executed by the computer, cause the computer to perform:

receiving a routing information packet from a network interface of a packet forwarder;

transmitting the routing information packet to a packet control device;

receiving the routing information packet from the packet forwarder;

associating the routing information packet with a virtual interface that has address

information associated with the network interface;

deciding on, according to an algorithm prescribed by a routing protocol, a path to be selected based on information of the network interface and routing information which the packet control device exchanges with the other packet control device in a network;

registering the path by the deciding to a routing table;

transmitting the routing information packet to the routing process;

receiving the routing information packet transmitted from the routing process; and

transmitting the routing information packet to the packet forwarder including the network interface that is associated with an address of the virtual interface;

acquiring the first routing table updated by the routing process; and

transmitting the routing information on the first routing table to the packet forwarder for updating the second routing table, wherein

the packet control device connects to the packet forwarder through a network.

15. (CANCELLED)

16. (CURRENTLY AMENDED) A computer-readable storage for controlling a computer, the computer-readable storage excluding a communication medium, comprising a computer program for maintaining a routing table, the packet forwarder including a plurality of network interfaces, the packet control device including a plurality of network interfaces and a plurality of virtual interfaces, each of the virtual interfaces having address information that is associated with one of the network interfaces of the packet forwarder, the computer program including computer executable instructions which, when executed by the computer, cause the computer to perform:

dividing the network interfaces of the packet control device and the virtual interfaces into a plurality of groups;

deciding on, according to an algorithm prescribed by a routing protocol, a path to be selected based on information of the network interface and routing information which the packet control device exchanges with the other packet control device in a network;

registering the path by the deciding to a first routing table; and

transmitting the packet to the packet forwarder including the network interface that is associated with an address of the virtual interface grouped for each packet forwarder; and

~~maintaining the routing table of each of the groups using a routing process associated with each of the groups~~

maintaining a second routing table of each packet forwarder using the routing information

on the first routing table associated with each of the cirtual interfaces grouped, wherein

the packet control device connects to the packet forwarder through the network.

17. (CANCELLED)

18. (CURRENTLY AMENDED) A computer-readable storage for controlling a computer, the computer-readable storage excluding a communication medium, comprising a computer program for maintaining a routing table of a packet forwarder, including computer executable instructions which, when executed by the computer, cause the computer to perform:

receiving a routing information packet from a network interface of the packet forwarder;

deciding on, according to an algorithm prescribed by a routing protocol, a path to be selected based on information of the network interface and routing information which the packet control device exchanges with the other packet control device in a network;

registering the path by the deciding to a first routing table in the packet control device; ~~and~~

transmitting the packet to the packet forwarder including the network interface that is associated with an address of the virtual interface;

receiving the routing information of the first routing table from a packet control device; and

setting the routing information on the first routing table to the second routing table in the packet forwarder, wherein

the second routing table makes a destination address of a packet associate with a next transfer destination.

19. (CANCELLED)

20. (CURRENTLY AMENDED) A router control device comprising:

a virtual interface setting unit that creates and manages virtual interfaces on a router control device according to corresponding network interfaces of a forwarder, each of the virtual interfaces having address information that is associated with one of the network interfaces of the forwarder;

a deciding unit that decides on, according to an algorithm prescribed by a routing protocol, a path to be selected based on information of the network interface and routing information which the packet control device exchanges with the other packet control device in a

network;

a registering unit that registers the path decided by the deciding unit to be a first routing table;

a routing unit that generates a second routing table ~~for~~ in the forwarder based on routing information in routing information packets received at the network interface of the forwarder and transferred by the forwarder including the network interface that is associated with an address of the virtual interface to the router control device; and

a routing information storage unit that stores ~~a~~ the first routing table created and managed by the routing unit for packet forwarding between the virtual interfaces, wherein

the router control device connects to the forwarder through a network, and

the routing unit generates the second routing table in the forwarder based on the routing information on the first routing table stored in the routing information storage unit.

21. (CURRENTLY AMENDED) The router control device according to claim 20, further comprising a tunnel transfer unit that transfers the routing information packet via a communication path that connects between the network interface and the virtual interface, wherein

the routing information storage unit stores the routing information in the routing information packet transferred by the tunnel transfer unit~~, and~~

~~the routing unit generates the routing table for the forwarder based on the routing information stored in the routing information storage unit~~.

22. (CURRENTLY AMENDED) The router control device according to claim 20, further comprising:

a routing table transmission unit that acquires the first routing table and that transmits the routing information on the first routing table to the forwarder~~, wherein~~

~~the routing unit generates the routing table for the forwarder based on the routing information stored in the routing information storage unit~~.

23. (CURRENTLY AMENDED) A router control system which includes a forwarder and a router control device, wherein

the router control device includes

a virtual interface setting unit that that creates and manages virtual interfaces on a router control device according to corresponding network interfaces of a forwarder, each of the

virtual interfaces having address information that is associated with one of the network interfaces of the forwarder;

a tunnel transfer unit that transfers the routing information packet via a communication path that connects between the network interface and the virtual interface;

a deciding unit that decides on, according to an algorithm prescribed by a routing protocol, a path to be selected based on information of the network interface and routing information which the packet control device exchanges with the other packet control device in a network;

a routing information storage unit that stores routing information in the routing information packet transferred by the tunnel transfer unit;

a routing unit that generates ~~the~~ a first routing table ~~for~~ in the forwarder based on the routing information stored in the routing information storage unit;

a registering unit that registers the path decided by the deciding unit to ~~the~~ a second routing table; and

the routing table transmission unit that acquires the second routing table, and transmits the routing information on the second routing table to the first routing table in the forwarder, and

the forwarder forwards a packet from its network interface, being associated with an address of the virtual interface, to its other network interface according to ~~its~~ the first routing table, and includes a received packet transfer unit that transmits a routing information packet received at the network interface to the router control device that maintains the first routing table ~~of the forwarder~~ using a routing process, wherein

the router control device connects to the forwarder through a network.

24. (CURRENTLY AMENDED) A method of maintaining a routing table, comprising:

creating and managing virtual interfaces on a router control device according to corresponding network interfaces of a forwarder, each of the virtual interfaces having address information that is associated with one of the network interfaces of the forwarder;

deciding on, according to an algorithm prescribed by a routing protocol, a path to be selected based on information of the network interface and routing information which the packet control device exchanges with the other packet control device in a network;

generating a first routing table ~~for~~ in the forwarder based on routing information in routing information packets received at the network interface of the forwarder and transferred by the forwarder to the router control device; and

registering the path decided by the deciding to ~~the~~ a second routing table;

storing ~~a~~ the second routing table created and managed by the routing unit for packet forwarding between the virtual interfaces, wherein

the router control device connects to the forwarder including the network interface that is associated with an address of the virtual interface through the network, and

the generating includes generating the first routing table in the forwarder based on the routing information on the second routing table.

25. (CURRENTLY AMENDED) The method according to claim 24, further comprising transferring the routing information packet via a communication path that connects between the network interface and the virtual interface, wherein

the storing includes storing the routing information in the routing information packet transferred by the tunnel transfer unit~~, and~~

~~the generating includes generating the routing table for the forwarder based on the routing information stored~~.

26. (CURRENTLY AMENDED) The method according to claim 24, further comprising:

acquiring the second routing table; and

transmitting the routing information on the second routing table to the forwarder~~, wherein~~

~~the generating includes generating the routing table for the forwarder based on the routing information stored~~.

27. (CURRENTLY AMENDED) A method of maintaining a routing table, comprising:

creating and managing virtual interfaces on a router control device according to corresponding network interfaces of a forwarder, each of the virtual interfaces having address information that is associated with one of the network interfaces of the forwarder;

transferring the routing information packet by tunneling via a communication path that connects between the network interface and the virtual interface;

deciding on, according to an algorithm prescribed by a routing protocol, a path to be selected based on information of the network interface and routing information which the packet control device exchanges with the other packet control device in a network;

storing routing information on the routing information in the routing information packet transferred;

generating a first routing table ~~for~~ in the forwarder based on the routing information

stored;

acquiring ~~the~~ a second routing table;

registering the path decided by the deciding unit to the second routing table;

transmitting the routing information on the second routing table to the forwarder;

forwarding a packet from a network interface of the forwarder to other network interface of the forwarder according to ~~a~~ the first routing table ~~of the forwarder~~; and

transmitting a routing information packet received at the network interface of the forwarder, being associated with an address of the virtual interface, to the router control device that maintains the first routing table of the forwarder using a routing process, wherein

the router control device connects to the forwarder through a network.

28. (CURRENTLY AMENDED) A computer-readable storage for controlling a computer, the computer-readable storage excluding a communication medium, comprising a computer program for maintaining a routing table, including computer executable instructions which, when executed by the computer, cause the computer to perform:

creating and managing virtual interfaces on a router control device according to corresponding network interfaces of a forwarder, each of the virtual interfaces having address information that is associated with one of the network interfaces of the forwarder;

deciding on, according to an algorithm prescribed by a routing protocol, a path to be selected based on information of the network interface and routing information which the packet control device exchanges with the other packet control device in a network;

generating a first routing table ~~for~~ in the forwarder based on routing information in routing information packets received at the network interface of the forwarder and transferred by the forwarder to the router control device; and

registering the path decided by ~~the~~ a second deciding to the routing table;

storing a second routing table created and managed by the routing unit for packet forwarding between the virtual interfaces, wherein

the router control device connects to the forwarder including the network interface that is associated with an address of the virtual interface through the network, and

the generating includes generating the first routing table for the forwarder based on the routing information stored.

29. (CURRENTLY AMENDED) The computer-readable storage according to claim 28, wherein the instructions further cause the computer to perform transferring the routing

information packet via a communication path that connects between the network interface and the virtual interface, wherein

the storing includes storing the routing information in the routing information packet transferred by the tunnel transfer unit, ~~and~~

~~the generating includes generating the routing table for the forwarder based on the routing information stored~~.

30. (CURRENTLY AMENDED) The computer-readable storage according to claim 28, wherein the instructions further cause the computer to perform:

acquiring the second routing table; and

transmitting the routing information the second routing table to the forwarder, ~~wherein~~

~~the generating includes generating the routing table for the forwarder based on the routing information stored~~.

31. (CURRENTLY AMENDED) A computer-readable storage for controlling a computer, the computer-readable storage excluding a communication medium, comprising a computer program for maintaining a routing table, including computer executable instructions which, when executed by the computer, cause the computer to perform:

creating and managing virtual interfaces on a router control device according to corresponding network interfaces of a forwarder, each of the virtual interfaces having address information that is associated with one of the network interfaces of the forwarder;

transferring a routing information packet by tunneling via a communication path that connects between the network interface and the virtual interface;

deciding on, according to an algorithm prescribed by a routing protocol, a path to be selected based on information of the network interface and routing information which the packet control device exchanges with the other packet control device in a network;

storing routing information on the routing information in the routing information packet transferred;

generating a first routing table ~~for~~ in the forwarder based on the routing information ~~stored~~on a second routing table;

acquiring the second routing table;

registering the path decided by the deciding unit to the first routing table;

transmitting the routing information on the second routing table to the forwarder;

forwarding a packet from a network interface of the forwarder to another network

interface of the forwarder according to ~~a~~ the first routing table ~~of the forwarder~~; and

transmitting a routing information packet received at the network interface of the forwarder, being associated with an address of the virtual interface, to the router control device that maintains the first routing table of the forwarder using a routing process, wherein

the router control device connects to the forwarder through a network.

32. (CANCELLED)